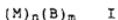


We claim:

1. The use of α -lipoic acid or α -dihydrolipoic acid for
5 increasing the bioavailability of mineral salts.
2. The use as claimed in claim 1, wherein at least one mineral
salt is used in combination with α -lipoic acid or
 α -dihydrolipoic acid.
10
3. The use as claimed in claim 2, wherein mineral salts of the
formula I are used,



15 where

M is a monovalent to trivalent physiologically acceptable metal cation,

20 B is a monovalent to trivalent physiologically acceptable anion,

n is 1, 2 or 3 and

25 m is 1, 2 or 3,

where the subscripts n and m correspond to the valency and charge equalization of the mineral salt of the formula I.

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4. The use as claimed in claim 1 or 2, wherein the combination used is metal α -lipoates, metal α -dihydrolipoates or metal- α -lipoic acid complexes.
 - 35 5. The use as claimed in claim 4, wherein the combination used is metal α -lipoates, metal α -dihydrolipoates or metal- α -lipoic acid complexes of the formula II,



40 where

M is a monovalent to trivalent physiologically acceptable metal cation or a mixture of monovalent to trivalent physiologically acceptable metal cations,
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Lp is racemic α -lipoic acid or α -dihydrolipoic acid, (R)- or (S)- α -lipoic acid or (R)- or (S)- α -dihydrolipoic acid, racemic α -lipoate or dihydro- α -lipoate or (R)- or (S)- α -lipoate or (R)- or (S)-dihydro- α -lipoate,

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A is a physiologically acceptable monovalent or divalent anion,

w is 1 or 2

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x is 1, 2, 3 or 4,

y is 0, 1, 2 or 3 and

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z is 0, 1, 2, 3, 4, 5 or 6,

where the subscripts w, x and y correspond to the valency and charge equalization of the compound of the formula II.

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6. The use as claimed in one of claims 1 to 5, wherein the α -lipoic acid used is (R)- α -lipoic acid or the α -lipoate used is (R)- α -lipoate.

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7. A preparation comprising at least one mineral salt and (R)- α -lipoic acid or (S)- α -lipoic acid.

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8. A metal α -lipoate, metal α -dihydrolipoate or metal- α -lipoic acid complex of the formula II',



where

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M is a monovalent to trivalent physiologically acceptable metal cation or a mixture of monovalent to trivalent physiologically acceptable metal cations,

40

Lp is racemic α -lipoic acid or α -dihydrolipoic acid, (R)- or (S)- α -lipoic acid or (R)- or (S)- α -dihydrolipoic acid, racemic α -lipoate or dihydro- α -lipoate or (R)- or (S)- α -lipoate or (R)- or (S)-dihydro- α -lipoate,

45

A is a physiologically acceptable monovalent or divalent anion,

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w is 1 or 2,

x is 1, 2, 3 or 4,

5 y is 0, 1, 2 or 3 and

z is 0, 1, 2, 3, 4, 5 or 6,

10 where the subscripts w, x and y correspond to the valency
and charge equalization and

the following compounds are excluded:

15 Mn(Lip⁻)ClO₄, Cu(Lip⁻)ClO₄, Zn(Lip⁻)ClO₄, Cd(Lip⁻)ClO₄,
Pb(Lip⁻)ClO₄, Hg(Liprac)(OH)₂, Hg(DHLrac²⁻), Ni(DHLrac²⁻),
Fe₂(DHLrac²⁻)₃, Zn(Liprac⁻)₂(H₂O)₂, Cd(Liprac⁻)₂(H₂O)₂

where

20 Lip⁻ is monovalent negative racemic or (R)- or
(S)- α -lipoate,

Liprac⁻ is monovalent negative racemic α -lipoate,

25 Liprac is racemic α -lipoic acid and

DHLrac²⁻ is divalent negative racemic α -dihydrolipoate.

9. A preparation comprising metal α -lipoates, metal
30 α -dihydrolipoates or metal- α -lipoic acid complexes as claimed
in claim 8.

10. A preparation comprising metal α -lipoates, metal
35 α -dihydrolipoates or metal- α -lipoic acid complexes as claimed
in claim 5 and α -lipoic acid or α -dihydrolipoic acid.

11. The use of the metal α -lipoates, metal α -dihydrolipoates or
metal- α -lipoic acid complexes as claimed in claim 5 as
feedstuff or food supplements.

40 12. The use of the metal α -lipoates, metal α -dihydrolipoates or
metal- α -lipoic acid complexes as claimed in claim 5 in
cosmetic formulations.

45 13. A metal α -lipoate, metal α -dihydrolipoate or metal- α -lipoic
acid complex as claimed in claim 5 for use as drugs.

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14. The use of the metal α -lipoates, metal α -dihydrolipoates or metal- α -lipoic acid complexes as claimed in claim 5 for preparing a drug for treating disorders in which lipoic acid has a therapeutic or prophylactic effect and there is a
5 mineral salt deficiency.
15. The use of the metal α -lipoates, metal α -dihydrolipoates or metal- α -lipoic acid complexes as claimed in claim 5 in accordance with claim 14 for treating diabetes, tumors, HIV
10 infections, AIDS, renal insufficiency, malnutrition, protein-energy malnutrition and mineral deficiencies.

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